

REMARKS

This application has been reviewed in light of the Office Action dated November 10, 2003. Claims 1, 3, 4, 7, 12-16, and 18-20 are pending in this application. Claim 20 has been added to provide Applicants with a more complete scope of protection. Claims 1, 3, 4, 16, 18, and 19 have been amended to define still more clearly what Applicants regard as their invention, in terms that distinguish over the art of record. Claims 1, 16, and 19 are the independent claims. Favorable reconsideration is requested.

The Office Action rejected Claims 1, 3, 4, 7, 12-16, 18, and 19 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,031,543 to Miyashita et al. ("Miyashita").

For a general understanding of the invention, the Examiner is referred, for example, to Fig. 12 of the application, which shows a saturation conversion characteristic (represented by the heavy, solid line). The conversion characteristic provides a mapping between the saturation information of the original image (on the x-axis) and the "converted" saturation information (on the y-axis). It is important to note that the conversion characteristic is generated based on two parameters: a low-saturation side parameter and a high-saturation side parameter. This is quite advantageous, as it allows lower-saturation areas of the image to be processed differently than higher-saturation areas (see pages 1 and 2 of the specification). Of course, the scope of the claims is not limited to the details of any particular embodiment in the specification, and therefore, the claims are discussed in detail below.

The aspect of the present invention set forth in Claim 1 is an image processing apparatus having a saturation calculation unit that is arranged to calculate saturation information of an image. A first setting unit is arranged to set a first conversion parameter for a low-saturation side, and a second setting unit is arranged to set a second conversion parameter for a high-saturation side. A saturation conversion characteristic generating unit is arranged to generate a saturation conversion characteristic on the basis of the first conversion parameter for the low-saturation side and the second conversion parameter for the high-saturation side. A saturation conversion unit arranged to convert the saturation of the image on the basis of the saturation conversion characteristic.

One notable feature of Claim 1 is that the saturation conversion characteristic generating unit generates a saturation conversion characteristic on the basis of the first conversion parameter for the low-saturation side and the second conversion parameter for the high-saturation side.

Miyashita, as understood by Applicants, relates to a technology for manipulating image saturation and hue. A user can change hue by moving the position of a reference circle displayed on a plane in lab color space. The user can also change saturation by changing the size of the reference circle. Figs. 10 and 34 of Miyashita illustrate this process: the diameter of the reference circle is decreased to lower the saturation and increased to raise the saturation.

In the techniques discussed in Miyashita, saturation is controlled by a single parameter, i.e., the diameter of the reference circle. Moreover, in Miyashita, the saturation of all of the pixels is increased or decreased, regardless of whether they are low-saturation

or high-saturation, i.e., the conversion characteristic is uniform across all values of saturation. Miyashita does not even contemplate a saturation conversion characteristic that differs with respect to low-saturation and high-saturation pixels. Indeed, as discussed in Miyashita at col. 13, lines 48-57, when the saturation control is shifted to its maximum position, there is a certain range of gradation values (values between a_{OF} and 255) that are converted to the maximum value (255). This is one of the problems the invention is meant to address (see, e.g., page 2, lines 1-9 of the specification).

Thus, nothing has been found in Miyashita that even suggests performing a saturation conversion in which low-saturation regions can be treated differently than high-saturation regions, in the manner discussed above. *A fortiori*, nothing found in Miyashita would teach or suggest generating a saturation conversion characteristic on the basis of a first conversion parameter, for the low-saturation side, and a second conversion parameter, for the high-saturation side, as recited in Claim 1.

Accordingly, Applicants submit that Claim 1 is patentable over Miyashita. Independent Claims 16 and 19 are method and computer recording medium claims, respectively, that correspond to apparatus Claim 1, and are believed to be patentable for at least the same reasons as discussed above in connection with Claim 1.

The other rejected claims in this application depend from one or another of the independent claims discussed above, and, therefore, are submitted to be patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, individual consideration or reconsideration, as the case may be, of the patentability of each claim on its own merits is respectfully requested.

This Amendment After Final Action is believed to place this application in condition for allowance and, therefore, its entry is believed proper under 37 C.F.R. § 1.116. Accordingly, entry of this Amendment After Final Action, as an earnest effort to advance prosecution and reduce the number of issues, is respectfully requested. Should the Examiner believe that issues remain outstanding, it is respectfully requested that the Examiner contact Applicants' undersigned attorney in an effort to resolve such issues and advance the case to issue.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,



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